

WHAT IS CLAIMED IS:

1. A method for providing bandwidth sensitive data compression in a data processing system, the method comprising the steps of:
  - 5 compressing data using an first compression routine providing a first compression rate; tracking the throughput of the data processing system to determine if the first compression rate provides a throughput that meets a predetermined throughput threshold;
  - 10 and compressing data using a second compression routine providing a second compression rate that is greater than the first compression rate, if the tracked throughput does not meet the predetermined throughput threshold.
- 15 2. The method of claim 1, wherein the first compression routine comprises an asymmetric routine and wherein the second compression routine comprises a symmetric routine.
- 20 3. The method of claim 1, further comprising the steps of utilizing the second routine to perform compression until the throughput of the data processing

system is determined to meet the predetermined throughput threshold, and then reusing the first compression routine.

4. The method of claim 3, wherein the first  
5 compression routine comprises a default asymmetrical  
algorithm.

5. The method of claim 1, further comprising the  
step of processing a user command to load a user-selected  
10 compression routine for compressing data.

6. The method of claim 1, further comprising the  
steps of:

processing a user command to compress user-provided  
15 data;  
automatically selecting a compression routine  
associated with a data type of the user-provided data.

7. The method of claim 1, wherein the step of  
20 tracking throughput comprises tracking a number of pending  
access requests to a storage device.

8. The method of claim 1, wherein the step of  
tracking throughput comprises tracking a number of pending

requests for data transmission over a communication channel.

9. A method for providing accelerated data storage,  
5 comprising the steps of:

receiving a digital data stream at an input data transmission rate that is greater than a data storage rate of a target storage device;

10 compressing the digital data stream at a compression rate that increases the effective data storage rate of the target storage device; and

storing the compressed digital data stream in the target storage device; wherein the step of compressing comprises the steps of:

15 compressing data using an first compression routine providing a first compression rate;

tracking an amount of pending access requests to the storage device to determine if the first compression rate provides a throughput that meets a predetermined throughput  
20 threshold; and

compressing data using a second compression routine providing a second compression rate that is greater than the first compression rate, if the tracked throughput does not meet the predetermined throughput threshold.

10. The method of claim 9, wherein the compression  
rate is at least equal to the ratio of the input data  
5 transmission rate to the data storage rate so as to provide  
continuous storage of the input digital data stream at the  
input data transmission rate.

11. A system for providing bandwidth sensitive data  
10 compression, comprising:

a data compression system for compressing and  
decompressing data input to the system;  
a plurality of compression routines selectively  
utilized by the data compression system; and  
15 a controller for tracking the throughput of the system  
and generating a control signal to select a compression  
routine based on the system throughput.

12. The system of claim 11, wherein when the  
20 controller determines that the system throughput falls  
below a predetermined throughput threshold, the controller  
commands the data compression engine to use a compression  
routine providing a faster rate of compression so as to  
increase the throughput.

13. The system of claim 11, further comprising a plurality of access profiles, operatively accessible by the controller, to determine a compression routine that is  
5 associated with a data type of data to be compressed.

14. The system of claim 11, wherein the system comprises a data storage controller, wherein the system throughput comprises a number of pending access requests to  
10 a storage device.

15. The system of claim 11, wherein the system comprises a data transmission controller, wherein the system throughput comprises a number of pending  
15 transmission requests over a communication channel.

16. A program storage device readable by a machine, tangibly embodying a program instructions executable by the machine to perform method steps for providing bandwidth  
20 sensitive data compression in a data processing system, the method comprising the steps of:

compressing data using a first compression routine providing a first compression rate;

tracking the throughput of the data processing system to determine if the first compression rate provides a throughput that meets a predetermined throughput threshold; and

5 compressing data using a second compression routine providing a second compression rate that is greater than the first compression rate, if the tracked throughput does not meet the predetermined throughput threshold.

10 17. A program storage device readable by a machine, tangibly embodying a program instructions executable by the machine to perform method steps for providing accelerated data storage, the method steps comprising:

receiving a digital data stream at an input data  
15 transmission rate that is greater than a data storage rate of a target storage device;

compressing the digital data stream at a compression rate that increases the effective data storage rate of the target storage device; and

20 storing the compressed digital data stream in the target storage device; wherein the step of compressing comprises the steps of:

compressing data using a first compression routine providing a first compression rate;

tracking an amount of pending access requests to the storage device to determine if the first compression rate provides a throughput that meets a predetermined throughput threshold; and

- 5 compressing data using a second compression routine providing a second compression rate that is greater than the first compression rate, if the tracked throughput does not meet the predetermined throughput threshold.